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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/181,533	10/28/1998	ADNAN SHENNIB	ISM/003	1018
20350	7590	05/11/2005	EXAMINER	
TOWNSEND AND TOWNSEND AND CREW, LLP TWO EMBARCADERO CENTER EIGHTH FLOOR SAN FRANCISCO, CA 94111-3834			ENSEY, BRIAN	
			ART UNIT	PAPER NUMBER
			2643	

DATE MAILED: 05/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/181,533

Applicant(s)

SHENNIB, ADNAN

Examiner

Brian Ensey

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 January 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17, 20-25 and 33 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17, 20-25 and 33 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

2. Claims 1-13, 15-17, 20-25 and 33 are rejected under 35 U.S.C. 103(a) as being unpatentable over Epley, U.S. Patent No. 4,756,312 in view of Grad, U.S. Patent No. 5,811,896.

Regarding claim 1, Epley discloses a miniature hearing aid device (10) adapted to be positioned substantially in the ear canal of the wearer, comprising: electrical circuit means (14) for receiving and processing incoming signals representative of audio signals and converting them to an output for exciting the tympanic membrane of the wearer; a miniature magnetically controlled latchable reed switch assembly (22) for controlling at least one of activation and deactivation of the hearing device or an operating parameter of the hearing device; said miniature reed switch assembly including: a reed switch including first and second reeds providing electrical contacts spaced apart by an air gap, respective lead wires electrically connected to said first and second reeds and to said electrical circuit means, and a latching magnet (95), said latching magnet having a magnetic field of sufficient strength to maintain said first and second reeds together in electrical contact after said air gap is closed by an externally applied magnetic field of suitable magnitude, polarity and proximity, but of insufficient strength to bring said first and second reeds together in electrical contact while said air gap exists, wherein the externally applied magnetic field is generated by a magnetic field means that is substantially located outside the ear canal or not substantially physically engaged with the hearing device (See Figs. 1 and 5 and col. 5, lines 22-29, col. 6, line 63 to col. 7, line 35 and col. 10, lines 30-42). Epley does not expressly disclose the latching magnet is directly affixed to one of said first reed or the lead wire

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associated with said first reed. However, the construction of a miniature latching reed switch is well known in the art and Grad teaches the construction of a latching reed switch with the latching magnet is directly affixed to the lead wire associated with said first reed (See Fig. 3 and col. 1, line 59 to col. 4, line 16). It would have been obvious to one of ordinary skill in the art at the time of the invention that the miniature latching reed switch of Epley is constructed as taught by Grad for proper latching operation.

Regarding claims 2-5, Epley does not expressly disclose the latching magnet is directly affixed to said first reed or wedged between ferromagnetic wires, leadwires are ferromagnetic, or latching magnet is directly affixed to said ferromagnetic lead wire connected to said first reed. However, Grad teaches the construction of a latching reed switch with the latching magnet is directly affixed to the lead wire associated with said first reed (See Fig. 3 and col. 1, line 59 to col. 4, line 16). It would have been obvious to one of ordinary skill in the art at the time of the invention that the miniature latching reed switch of Epley is constructed as taught by Grad for proper latching operation.

Regarding claim 6, Epley does not expressly disclose the reed switch is encapsulated in a hermetically sealed casing. However, this construction is well-known and Grad teaches a reed switch which is sealed in a glass tube together with an inert gas. It would have been obvious to one of ordinary skill in the art at the time of the invention to seal the reed switch to prevent corrosion or contamination due to dust or cerumen when used in the hearing aid.

Regarding claims 7 and 8, Epley further discloses a reed switch assembly positioned for remote control by a control magnet wielded by the wearer including a control magnet supplied with said device and including means to prevent insertion of said control magnet into the ear canal (See Figs. 1 and 6-11 and col. 10, lines 30-36).

Regarding claim 9, Epley does not expressly disclose the control magnet is an electromagnet. However, Grad teaches the control magnet may be an electromagnet (See col.5, line 63 to col. 6, line 3). It would have been obvious to one of ordinary skill in the art at the time of the invention to use an electromagnet as a control magnet for greater flexibility in control devices and so that a permanent magnet is not required in the control device.

Regarding claim 10, Epley further discloses the reed switch assembly is a power switch for activation and deactivation of the hearing device (See Fig 5 and col. 10, lines 30-36).

Regarding claims 11 and 12, Epley discloses a reed switch assembly connected to control an operating parameter of the device and further the assembly comprises a plurality of reed switches (See Fig. 5 and col. 10, line 30 to col. 11, line 21). Epley does not expressly disclose the reed switches are latchable reed switches. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to use latchable reed switches for controlling operating parameters so that the control device does not have to be maintained in the vicinity of the reed switch for the entire time the adjustments are made.

Regarding claim 13, Epley does not expressly disclose the latching magnet has a protective coating. However, magnets with protective coating are well known in the art. It would have been obvious to one of ordinary skill in the art at the time of the invention to provide the latching magnet with a protective coating to prevent corrosion from moisture.

Regarding claim 15, Epley discloses a miniature hearing aid device (10) adapted to fit within or be surgically implanted adjacent to the ear canal of a human user and to be remotely controlled for powering the device on and off and/or for adjusting an operating parameter of the device to enhance the hearing of the user in response to a received incoming signal to the device representative of an audio signal, said device comprising a miniature magnetically controlled latchable reed switch assembly (22) to enable the user to remotely control the device by use of an

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external magnet; said reed switch assembly including a reed switch having at least a pair of reeds spaced apart by an air gap, and a latching magnet (95) for holding said reeds together in electrical contact after being closed by the user's passage of said external magnet in close proximity thereto, but of inadequate magnetic field strength to close said air gap without aid; whereby once said reeds are closed, the latching magnet prevents separation thereof until said reeds are exposed to an external magnetic field of sufficient strength and opposite polarity to the field of said latching magnet, wherein the externally applied magnetic field is generated by a magnetic field means that is substantially located outside the ear canal or not substantially physically engaged with the hearing device (See Fig. 1 and col. 5, lines 22-29, col. 6, line 63 to col. 7, line 35 and col. 10, lines 30-42). Epley does not expressly disclose the latching magnet is directly affixed to one of said first reed or the lead wire associated with said first reed. However, the construction of a miniature latching reed switch is well known in the art and Grad teaches the construction of a latching reed switch with the latching magnet is directly affixed to the lead wire associated with said first reed. It would have been obvious to one of ordinary skill in the art at the time of the invention that the miniature latching reed switch of Epley is constructed as taught by Grad for proper latching operation.

Regarding claims 16 and 20, Epley discloses a magnetically controlled latchable reed switch assembly controls at least one of activation/deactivation of the device. Epley does not expressly disclose the switch assembly controls device operating parameters including adjustment of frequency response of the device to said received incoming signal representative of an audio signal and adjustment of loudness of the processed received incoming signal as output vibrations of said hearing device to a vibratory structure of the ear of the user or additional reeds switches being positioned for concurrent control of activation of the device and adjustment of one of said operating parameters. However, Epley does teach a reed switch

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assembly for operating the loudness of the incoming signal and it would have been obvious to one of ordinary skill in the art at the time of the invention to provide latchable switch units positioned for concurrent operation of other control parameters including frequency for ease of adjustment by the user.

Regarding claims 17, Epley discloses circuit means for processing the received incoming signal, and lead wires connected to each reed, respectively and to predetermined points of the electrical circuit means exists (See Figs. 1 and 5 and col. 6, line 63 to col. 7, line 35 and col. 10, lines 30-42). Epley does not expressly disclose leads wires are ferromagnetic. However, Grad teaches the construction of a latching reed switch with the latching magnet is directly affixed to the lead wire associated with said first reed (See Fig. 3 and col. 1, line 59 to col. 4, line 16). It would have been obvious to one of ordinary skill in the art at the time of the invention that the miniature latching reed switch of Epley is constructed as taught by Grad for proper latching operation.

Regarding claim 21, Epley discloses a method of remotely activating and deactivating a miniature hearing device, the method comprising: implementing the hearing device with a miniature magnetically controlled latchable reed switch assembly to apply and remove battery power to the device including a reed switch having at least a pair of reeds spaced apart by an air gap and a latching magnet for holding said reeds together once closed by an external magnetic field of appropriate magnitude and polarity, but the latching magnet itself having inadequate magnetic field strength for unaided closure of said reeds spaced apart by said air gap; providing a control magnet means capable of generating a magnetic field of said appropriate magnitude for use by the wearer by placement in close proximity to said reed switch assembly (i) with one polarity when the hearing device is to be activated by closing said reeds to apply battery power to the device, so that the latching magnet prevents said reeds from being subsequently separated,

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and (ii) with the opposite polarity when the hearing device is to be deactivated by overcoming the latching force of the latching magnet and opening said reeds to remove battery power to the device; and activating the reed switch with the control magnet means substantially physically disengaged from the hearing device (See Fig. 1 and col.5, lines 22-29, col. 6, line 63 to col.7, line 35 and col. 10, lines 30-42). Epley does not expressly disclose the latching magnet is directly affixed to one of said first reed or the lead wire associated with said first reed. However, the construction of a miniature latching reed switch is well known in the art and Grad teaches the construction of a latching reed switch with the latching magnet is directly affixed to the lead wire associated with said first reed. It would have been obvious to one of ordinary skill in the art at the time of the invention that the miniature latching reed switch of Epley is constructed as taught by Grad for proper latching operation.

Regarding claim 22, Epley further discloses fashioning the control magnet means to fit near the opening of the ear for convenience of use by the wearer when the control magnet means is to be placed in close proximity to said reed switch assembly, but with a stopper to prevent the control magnet means from entering the ear canal (See Figs. 6-8).

Regarding claim 23, Epley does not expressly disclose fabricating the control magnet means in the form of a bar magnet having opposite polarities at its ends so that the control magnet means is conveniently inverted and placed near the ear by the wearer for powering the device on and off. However, Grad teaches the control magnet in the form of a bar magnet (See col. 5, lines 63-67). It would have been obvious to one of ordinary skill in the art at the time of the invention that the shape of the control magnet is cosmetic and to provide the control magnet in a variety of forms for easy manufacturability and customer appeal.

Regarding claims 24 and 25, Epley does not expressly disclose implementing said magnetically controlled latchable reed switch assembly with an additional pair of reeds spaced

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apart by an air gap, to enable remote control of the loudness of the output of the hearing device or remote control of the frequency response of the hearing device to received incoming signals representative of audio signals by use of said control magnet means by the wearer. However, Epley does teach a reed switch assembly for operating the loudness of the incoming signal and it would have been obvious to one of ordinary skill in the art at the time of the invention to provide latchable switch units positioned for concurrent operation of other control parameters including frequency for ease of adjustment by the user.

Regarding claim 33, Epley discloses a miniature hearing device adapted to be positioned substantially in the ear canal of a wearer, said device comprising: electrical circuit means for receiving and processing incoming signals representative of audio signals and converting them to an output for exciting the tympanic membrane of the wearer; a miniature magnetically controlled miniature latchable switch assembly for controlling at least one of activation and deactivation of the hearing device or an opening parameter of the hearing device, said miniature reed switch assembly including: a reed switch including first and second reeds providing electrical contacts spaced apart by an air gap respective lead wires electrically connected to said first and second reeds and to said electrical means; and a latching magnet having a magnetic field of sufficient strength to maintain said first and second reeds together in electrical contact after said air gap is closed by an externally applied magnetic field of suitable magnitude, polarity and proximity, but of insufficient strength to bring said first and second reeds together in electrical contact while said air gap exists; and wherein the reed switch is configured to be activated in the ear by the externally applied magnetic field when the external magnetic field is applied at variable directions with respect to a longitudinal axis of the reed switch (See Figs. 1 and 5 and col. 5, lines 22-29, col. 6, line 63 to col. 7, line 35 and col. 10, lines 30-42). Epley does not expressly disclose the latching magnet is directly affixed to one of said first reed or the lead wire

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associated with said first reed. However, the construction of a miniature latching reed switch is well known in the art and Grad teaches the construction of a latching reed switch with the latching magnet is directly affixed to the lead wire associated with said first reed (See Fig. 3 and col. 1, line 59 to col. 4, line 16). It would have been obvious to one of ordinary skill in the art at the time of the invention that the miniature latching reed switch of Epley is constructed as taught by Grad for proper latching operation.

3. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Epley as applied to claim 1 above, and further in view of Posey, U.S. Patent No. 5,233,322.

Regarding claim 14, Epley does not expressly disclose the reed switch assembly is protectively potted. However, Posey teaches a reed switch protectively potted (See Abstract). It would have been obvious to one of ordinary skill in the art at the time of the invention to provide a protective potting for the reed switch assembly to seal the reed switch to prevent corrosion and physical damage from mechanical shock when used in a hearing aid.

Response to Arguments

Applicant's arguments filed 01/25/05 have been fully considered but they are not persuasive.

The examiner agrees that Figure 1 of Epley teaches a magnetic device in contact with the hearing device, but in this context it is for insertion and removal of the hearing device. However, Epley discloses operation of the magnetic switches "by means of an external magnetic device while the hearing aid is mounted within the ear canal" (See col. 5, lines 22-29). It is the opinion of the examiner that this meets the requirement of an externally applied magnetic field as claimed by the applicant.

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THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Ensey whose telephone number is 571-272-7496. The examiner can normally be reached on Monday - Friday 6:30 AM - 3:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Curtis Kuntz can be reached on 571-272-7499. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

Or faxed to:

(703) 872-9306, for formal communications intended for entry and for informal or draft communications, please label "PROPOSED" or "DRAFT".

Hand-delivered responses should be brought to: Customer Service Window, Randolph Building, 401 Dulany Street, Arlington, VA 22314

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

BKE
May 05, 2005


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